ASSIGNMENT 1

Textbook Assignment: *Cryptologic Technician Training Series, Time Conversion,* A95-23-00-92, Topics 1, 2, and 3.

Learning Objective: Recognize concepts of time zone theory and time computation.

1-1. What is another name for the 180th meridian?

1. Equator
2. Prime Meridian
3. Greenwich Meridian
4. International Date Line

1-2. Except for time zones MIKE and YANKEE, how many degrees of longitude span each time zone?

1. 12
2. 15
3. 18
4. 25

1-3. Time zone designations use 25 of the 26 letters of the English alphabet. What letter is NOT used?

1. A
2. J
3. Q
4. X

1-4. In time zone problems, the ZULU time zone (0) has a "+" designator.

1. True
2. False

1-5. At the equator, each degree of longitude spans how many nautical miles?

1. 60
2. 150
3. 600
4. 900

1-6. What letter combination is correct in the statement that follows?

Time zones in east longitude are
        A   B
designated (plus) (minus) and must
    C   D
be (added to) (subtracted from) local

time to obtain Greenwich mean time.

1. A; C
2. A; D
3. B; C
4. B; D

1-7. A message originated at 191045S should be assigned what ZULU DTG?

1. 190445Z
2. 190545Z
3. 191545Z
4. 191645Z

1-8. When you cross the International Date Line from the eastern hemisphere into the western hemisphere, you always subtract a day.

    1. True
    2. False

1-9. It is always the same time, but never the same day, in time zones NOVEMBER and YANKEE.

    1. True
    2. False

1-10. At the equator, what is the approximate width, in nautical miles, of a time zone?

    1. 500
    2. 900
    3. 1500
    4. 1800

1-11. When the local time in Tokyo, Japan, is 210600I, what is the local DTG in Pensacola, Florida (time zone SIERRA)?

    1. 201500
    2. 201600
    3. 212000
    4. 212100

1-12. Washington, D.C. (39N 077W) is in what lettered time zone?

    1. QUEBEC
    2. SIERRA
    3. ROMEO
    4. UNFORM

1-13. What is the local DTG in zone PAPA at 1700A?

    1. 1300
    2. 1400
    3. 2000
    4. 2100

1-14. What is the local DTG in zone DELTA when it is 032200Q?

    1. 040600
    2. 042200
    3. 030600
    4. 031400

1-15. The ZULU time zone passes through which of the following countries?

    1. Finland
    2. England
    3. Australia
    4. Commonwealth of Independent States (former Soviet Union)

1-16. What letter combination is correct in the statement that follows?

The continental United States

(CONUS) spans four time zones

which are designated zones
    A   B
(E through H) (R through U)
                        C
and are numbered (+5 through +8)
       D
(-5 through -8).

    1. A; C
    2. A; D
    3. B; C
    4. B; D

1-17. If it is 1500U on 30 September, what is the local DTG in time zone MIKE?

    1. 291900 SEP
    2. 301100 SEP
    3. 011000 OCT
    4. 011100 OCT

1-18. It is 100500 local time in zone +2. What will be the local DTG, 10 hours later, in zone -4?

    1. 092300
    2. 101000
    3. 101100
    4. 102100

1-19. A ship at 3840N 11221E is in what time zone?

    1. +7
    2. +8
    3. -7
    4. -8

1-20. When the time in Manila is 120600H, what is the local DTG in Denver (time zone TANGO)?

    1. 111500
    2. 131500
    3. 122100
    4. 112100

1-21. What is the local DTG at 14400E when it is 0430 local time on 1 October at 17500W?

    1. 300630
    2. 010230
    3. 020130
    4. 020230

1-22. If it is 0300 local time on 31 May aboard a ship in the North Atlantic (2200W), what is the local DTG in Moscow (-3 time zone)?

    1. 302300 MAY
    2. 310700 MAY
    3. 310800 MAY
    4. 310700 JUN

1-23. It is 0500Z on 7 March. What is the local DTG in Honolulu (2720N 15642W)?

    1. 071500
    2. 071400
    3. 061900
    4. 061800

1-24. A message transmitted at 051000I from Tokyo is received in Washington, D.C., (3800N 07730W) one hour later. What is the local DC DTG at the time of receipt?

    1. 052300H
    2. 060000H
    3. 042000R
    4. 042100R

1-25. Your ship is at 0105N 05000E. An unidentified submarine has been located at 0045N 06930E. Approximately how many nautical miles is your ship from the submarine?

    1. 585
    2. 975
    3. 1170
    4. 1950

1-26. A ship is at 0027N 04230W at 102300Z. What is the local DTG aboard the ship?

    1. 102000C
    2. 102000P
    3. 110200C
    4. 110200P

FIGURE 1A

FIGURE 1B

IN ANSWERING QUESTION 1-27, REFER TO FIGURE 1A.

1-27. On 17 January at 0215Z, a radioman aboard the USS *WHITE PLAINS* intercepted the garbled position report in figure 1A from a vessel in distress. Assuming the transmission time (0415) reflects the local time at the vessel's position, what is the probable longitude?

　1. 01830E
　2. 02830E
　3. 01830W
　4. 02830W

1-28. A message originated in Moscow (-3 time zone) at 200625Z was received by a ship in the +12 time zone at 211325Y. How long was the message en route?

　1. 1 hour and 25 minutes
　2. 28 hours
　3. 31 hours
　4. 43 hours

1-29. An airplane departs Kennedy Airport (N.Y.) at 1130 local time on 14 June for Pakistan (time zone ECHO). If the flight time is 14 hours and 17 minutes, what is the local DTG when it arrives in Pakistan?

　1. 142047
　2. 141747
　3. 151147
　4. 151447

YOU ARE ABOARD A COAST GUARD CUTTER ON PATROL IN THE PACIFIC. YOUR RADIOMAN HAS JUST RECEIVED THE PARTIAL POSITION REPORT IN FIGURE 1B FROM AN UNIDENTIFIED VESSEL. THE TIME OF RECEIPT IS 220706Z AND THE POSITION OF YOUR CUTTER IS 0005N 17130W. USE THIS INFORMATION AND FIGURE 1B TO ANSWER QUESTIONS 1-30 THROUGH 1-32.

1-30. What was the local DTG aboard your ship at the time the position report was received?

　1. 211406
　2. 212006
　3. 221406
　4. 222006

1-31. Assuming the time of the position report (1705) reflects the local time at the unidentified vessel's location, what is the correct longitude?

　1. 15505W
　2. 15505E
　3. 17505W
　4. 17505E

1-32. The unidentified vessel is in what time zone?

　1. KILO
　2. LIMA
　3. XRAY
　4. WHISKEY

1-33. You depart San Francisco by ship at 0857 local time on 28 June for Japan. The time en route is 11 days, 12 hours and 37 minutes. What is the local DTG in Japan (time zone INDIA) when you arrive?

1. 092134 JUL
2. 100634 JUL
3. 101434 JUL
4. 111434 JUL

1-34. A ship at 3500N 04520W is in what time zone?

1. +3
2. +4
3. -3
4. -4

1-35. A missile launched at 0800Z on 1 May impacts 35 minutes later at 3950N 17630E. What is the local DTG in the target area at impact?

1. 301935 APR
2. 302035 APR
3. 011935 MAY
4. 012035 MAY

THE PRESIDENT OF THE UNITED STATES HAS JUST SENT AN URGENT COMMUNI-QUE FROM THE WHITE HOUSE TO THE AMBASSADOR TO BRAZIL IN RIO DE JANEIRO. THE DTG OF THE MESSAGE IS 212205Z. RIO DE JANEIRO IS SOUTH OF THE EQUATOR IN TIME ZONE PAPA.

FIGURE 1C

IN ANSWERING QUESTIONS 1-36 AND 1-37, USE THE INFORMATION IN FIGURE 1C.

1-36. What was the ZULU DTG in Rio de Janeiro when the communique was originated?

1. 220105
2. 220205
3. 211905
4. 212205

1-37. What was the local DTG in Washington, D.C., when the message was originated?

1. 211705
2. 212005
3. 220305
4. 220705

1-38. You are onboard the USS *CON-STELLATION* which is transiting the Pacific east to west. Your current position is 0027N 17820W. You receive a report of an unidentified aircraft at 0030N 15540E. Approximately how many nautical miles separate the carrier from the unidentified aircraft?

1. 400
2. 720
3. 1560
4. 1880

1-39. When time is given in daylight saving time, you add one hour to arrive at the zone's "normal" time.

1. True
2. False

1-40. Your parents are on vacation in Sydney, Australia, (time zone KILO) and have told you they will call you at 0630 on 1 June (Australia time). You are in San Angelo, Texas, (time zone SIERRA) and the CONUS is currently on daylight saving time. At what local San Angelo DTG will your parents call?

1. 311430 MAY
2. 311530 MAY
3. 010230 JUN
4. 012230 JUN

1-41. Assume that you are stationed in Hawaii (time zone WHISKEY) and your detailer told you to call on 30 June to check on your next set of orders. At what local DTG should you place your call to contact your detailer on 30 June at 1500 local Washington, D.C. time?

1. 301000 JN
2. 302200 JN
3. 010100 JL
4. 011100 JL

1-42. At 1100Z, a French ship using zone CHARLIE time sends a message to your ship stating that their commanding officer will be visiting your ship at 1500. How much time does your ship have to prepare for the VIP visit?

1. 1 hour
2. 2 hours
3. 3 hours
4. 4 hours

1-43. Assume you are planning a TAD trip to Tokyo, Japan (time zone INDIA). You are scheduled to depart Los Angeles, California at 0800 local time on 30 April. Your flight to Japan will take 10 hours. What local DTG should you tell your point of contact to meet you at Tokyo's International Airport?

1. 300100 APR
2. 291100 APR
3. 010100 MAY
4. 011100 MAY

1-44. If a missile was fired at 1316 local time on 4 February from a location in time zone INDIA and the impact area had a longitude of 17700E, what would be the local DTG in the impact area when the missile hits if the flight time is 16 minutes?

1. 041032Y
2. 041032M
3. 041632M
4. 041632Y

AS YOUR BATTLE GROUP PATROLS IN THE PACIFIC AT 0015N 17015W AT 2245Z ON 30 APRIL, YOUR PICKET DESTROYER LOCATES AN ENEMY AIRCRAFT CARRIER AT 0026N 17145E.

FIGURE 1D

IN ANSWERING QUESTIONS 1-45 THROUGH 1-47, REFER TO FIGURE 1D.

1-45. At the time the position of the enemy carrier was obtained, what was the approximate distance between it and your battle group?

   1. 620 NMs
   2. 1080 NMs
   3. 1440 NMs
   4. 1880 NMs

1-46. What was the local DTG at the position of the enemy carrier at 302245Z?

   1. 300945 APR
   2. 301245 APR
   3. 010845 MAY
   4. 010945 MAY

1-47. What was the local DTG at the position of your battle group at 302245Z?

   1. 301145 APR
   2. 301245 APR
   3. 011045 MAY
   4. 010945 MAY

1-48. A Russian ship departs Vladivostock (time zone -9) at 101327 local time and arrives in Vancouver, B.C., (time zone +8) exactly twelve days later. What was the arrival time of the vessel?

   1. 210600H
   2. 212027U
   3. 230600H
   4. 232027U

1-49. At 0915Z on 22 December, the USS *LONG BEACH,* located at 4130N 16845W, launched a surface-to-surface missile. Forty-live minutes later, a helicopter observed the splash-down of the missile at 4045N 17015E. What was the local DTG in the impact zone at the time of splash-down?

   1. 212100X
   2. 222000L
   3. 222100L
   4. 230700M

Learning Objective: Identify geographic reference and direction systems.

1-50. Which of the following is a characteristic of the prime meridian?

   1. It passes through the Royal Observatory at Greenwich, England
   2. It runs true north and south
   3. It divides the Eastern and Western Hemispheres
   4. Each of the above

1-51. Which of the following imaginary lines is a parallel that divides the Earth in half into Northern and Southern Hemispheres?

   1. The Prime Meridian
   2. The Great Circle
   3. The Equator
   4. The 180th Meridian

1-52. The latitude of a given point locates that point relative to its distance from the equator.

   1. True
   2. False

1-53. In geographic coordinates, each degree is divided into which of the following subunits?

   1. 30 minutes
   2. 30 seconds
   3. 60 minutes
   4. 60 seconds

1-54. Which of the following designations represents a point that is two-thirds of the way from 35° north to 36° north latitude?

   1. 352000N
   2. 352020N
   3. 354000N
   4. 354020N

1-55. A person traveled from Greenwich, England, until reaching a meridian designated 90°. In which of the following directions could the person have traveled?

1. East only
2. West only
3. East or west
4. North

1-56. A relative bearing is the direction of an object measured clockwise from which of the following reference points?

1. The ship's bow
2. Magnetic north
3. The object
4. True north

1-57. What is the reciprocal of 280°?

1. 090
2. 100
3. 180
4. 200

1-58. A ship steaming at an azimuth of 315° is headed in which of the following directions?

1. Northwest
2. Southeast
3. Northeast
4. Southwest

Learning Objective: Recognize characteristics of maps and charts.

1-59. Which of the following phrases defines a chart?

1. A chart details land areas only
2. A chart is a map that is used only by navigators of ships
3. A chart is the background upon which a map, showing a portion of the earth's surface, is superimposed
4. A chart details water areas and is used primarily for navigation

1-60. Map makers use which of the following methods to represent three-dimensional objects on a two-dimensional surface?

1. Hydrographics
2. Geographic coordinates
3. Topography
4. A projection

1-61. In the construction of a Mercator chart, the surface of the Earth is projected upon which of the following shapes?

1. A plane tangent to the Earth
2. A sphere tangent to the equator
3. A cylinder tangent to the equator
4. A cone tangent to the pole

1-62. Which of the following phrases describes the appearance of meridians on a Mercator projection?

1. Vertical lines that are parallel and equally spaced
2. Parallel lines whose spacing increases as longitude increases
3. Straight lines that intersect at the poles
4. Curved lines that bend toward the point of tangency

1-63. Which of the following is a disadvantage of a Mercator chart?

1. Distortion near the equator
2. Distortion at high latitudes
3. True distance cannot be measured
4. Parallel spacing is distorted

Learning Objective: Identify geographic areas that hold interest to the Navy.

1-64. What is the choke point that a ship must navigate to pass from the Atlantic Ocean to the Mediterranean Sea?

1. Suez Canal
2. Strait of Hormuz
3. Strait of Malacca
4. Strait of Gibraltar

1-65. What U.S. Navy fleet operates in the Mediterranean Sea?

　1. Second
　2. Third
　3. Sixth
　4. Seventh

1-66. The island of Crete in the Mediterranean Sea is located nearest to which of the following coordinates?

　1. 3125N 03015E
　2. 3900N 00430E
　3. 3500N 02500E
　4. 3430N 03500E

1-67. A ship entering the Red Sea via the Suez Canal will steer what approximate heading to reach the Gulf of Aden?

　1. SSE
　2. ENE
　3. S
　4. SW

1-68. The eastern side of Saudi Arabia is bordered by what body of water?

　1. Arabian Sea
　2. Red Sea
　3. Gulf of Oman
　4. Persian Gulf

1-69. Ships entering the Persian Gulf from the Gulf of Oman must navigate what strategic choke point?

　1. Suez Canal
　2. Strait of Hormuz
　3. Strait of Malacca
　4. Bab el Mandeb

1-70. Your ship is located at 1830N 05945E. Which of the following countries is closest to your location?

　1. Oman
　2. Saudi Arabia
　3. Egypt
　4. Iraq

1-71. What strategically important body of water lies between Japan and Korea?

　1. Pacific Ocean
　2. Yellow Sea
　3. Sea of Japan
　4. South China Sea

1-72. What U.S. Navy fleet is responsible for operations in the Western Pacific area?

　1. Second
　2. Third
　3. Sixth
　4. Seventh

1-73. A ship departing Guam on a heading of 350° is most likely destined for which of the following countries?

　1. Philippines
　2. Indonesia
　3. Japan
　4. Taiwan

1-74. The Strait of Malacca is an important passage between which of the following two bodies of water?

　1. Pacific Ocean and Sea of Japan
　2. Pacific Ocean and South China Sea
　3. South China Sea and Indian Ocean
　4. Indian Ocean and Coral Sea

1-75. Your ship is near 1800N 11200E on a heading of 015°. Which of the following ports of call will you soon be visiting?

　1. Manila, Philippines
　2. Hong Kong
　3. Tokyo, Japan
　4. Jakarta, Indonesia

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